

Title (en)  
Ultrasonic treatment controller

Title (de)  
Steuerung für Ultraschalltherapiegerät

Title (fr)  
Commande de traitement à ultrasons

Publication  
**EP 1970098 A2 20080917 (EN)**

Application  
**EP 08012090 A 19990317**

Priority  
• EP 05008868 A 19990317  
• EP 99913930 A 19990317  
• US 4015798 A 19980317

Abstract (en)  
A controller (10) for driving an ultrasonic transducer (14) is enclosed an includes a processor (16), responsive to a feedback signal, generating control signals (40) to an output driver (18) which is responsive to the control signals (40), to cause the ultrasonic transducer (14) to generate ultrasound having a power level corresponding to the control signal (40). The controller (10) is preferably attached to a sensing circuit (12) to determine the amount of the ultrasound conductive gel (22) associated with the ultrasonic transducer (14), and for generating the feedback signal therefrom. The controller (10) includes data logging capabilities to record treatment data and prevent unnecessary extended treatment. The control (10) creates an environment for safer ultrasonic self-treatment by patients. The microprocessor (16) used in the controller (10) can be used to warn of a low battery (3) condition or insufficient amount of ultrasound conducting gel (22). It can limit the usage of the transducer (14) to prevent over treatment by comparing use data with acceptable limits and disabling the transducer (14) if the limits have been exceeded. The device is contemplated to be portable for ease of transport by patients.

IPC 8 full level  
**A61B 18/00** (2006.01); **A61N 7/00** (2006.01); **A61B 8/00** (2006.01); **B06B 1/02** (2006.01); **H02J 7/00** (2006.01); **A61B 17/22** (2006.01)

CPC (source: EP US)  
**A61B 8/4227** (2013.01 - EP US); **A61B 8/4281** (2013.01 - EP US); **A61N 7/00** (2013.01 - EP US); **B06B 1/0246** (2013.01 - EP US); **H02J 7/00036** (2020.01 - EP US); **H02J 7/00047** (2020.01 - EP); **A61B 2017/2253** (2013.01 - EP US); **H02J 2310/23** (2020.01 - EP)

Citation (applicant)  
• US 4530360 A 19850723 - DUARTE LUIZ R [BR]  
• US 5520612 A 19960528 - WINDER ALAN A [US], et al  
• US 5003965 A 19910402 - TALISH ROGER J [US], et al  
• US 5186162 A 19930216 - TALISH ROGER J [US], et al  
• US 5211160 A 19930518 - TALISH ROGER J [US], et al

Cited by  
US10086216B2; US10639502B2; US11565134B2

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**WO 9947209 A1 19990923**; AT E299738 T1 20050815; AT E418361 T1 20090115; AU 3189499 A 19991011; AU 763050 B2 20030710; CA 2324007 A1 19990923; CA 2324007 C 20110712; DE 69926221 D1 20050825; DE 69926221 T2 20060524; DE 69940173 D1 20090205; EP 1064053 A1 20010103; EP 1064053 B1 20050720; EP 1566201 A2 20050824; EP 1566201 A3 20050907; EP 1566201 B1 20081224; EP 1970098 A2 20080917; EP 1970098 A3 20110525; ES 2245825 T3 20060116; ES 2318379 T3 20090501; JP 2002506701 A 20020305; JP 4088417 B2 20080521; US 6261249 B1 20010717

DOCDB simple family (application)  
**US 9905856 W 19990317**; AT 05008868 T 19990317; AT 99913930 T 19990317; AU 3189499 A 19990317; CA 2324007 A 19990317; DE 69926221 T 19990317; DE 69940173 T 19990317; EP 05008868 A 19990317; EP 08012090 A 19990317; EP 99913930 A 19990317; ES 05008868 T 19990317; ES 99913930 T 19990317; JP 2000536442 A 19990317; US 4015798 A 19980317